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ABSTRACT

This booklet, which is intended for individuals responsible for evaluating and improving tech prep and school-to-work programs, examines the history, structure, and use of the Tech Prep/School-to-Work Index and Improvement Program, which was developed to provide a system for conducting internally focused evaluations of tech prep and school-to-work programs. The booklet begins with a brief discussion of the need for the index and improvement program. Discussed in section 2 are the following: purpose and components; the six-level hierarchy of educational development on which the is based; development, characteristics, and use of the student, teacher and administrator, and employer survey; and benefits of the program. Section 3 explains the aims and features of tech prep and school-to work and their relationship to one another and summarizes selected studies of "best practices" in tech prep and school-to-work. Thirty-eight footnotes are included. Also included are a brochure providing an overview of the Tech Prep/School-to-Work Index and Improvement Program and the first two of a series of updates concerning the program. (MN)

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Tech Prep/School-to-Work Index and Improvement Program

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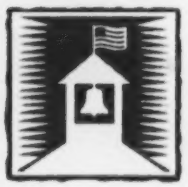

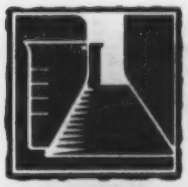

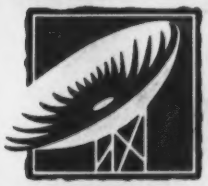

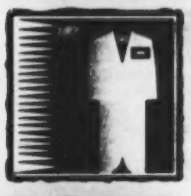

A CORD/Gallup Collaboration

A Diagnostic Tool to Assist in Identifying Areas for Educational Improvement

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Tech Prep/School-to-Work Index and Improvement Program

A CORD/Gallup Collaboration

A Diagnostic Tool to Assist in Identifying Areas for Educational Improvement

David L. Bond, Ed.D.

Center for Occupational Research and Development

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Contents

Page

I. Introduction 1

II. Description of the Program 2

How Did CORD and Gallup Create the Index and Improvement Program 2

How Were the Surveys for the Index Developed 6

What Are the Characteristics of the Surveys? 6

How Can Results of the Index Be Used? 8

What Are the Benefits of This Evaluation Program? 9

III. Background Information 10

What Is Tech Prep? 10

What Is School-to-Work? 11

What Is the Relationship Between Tech Prep and School-to-Work? 13

Why Were Tech Prep and School-to-Work Needed? 14

Research of 'Best Practices' 15

U.S. Department of Education: Office of Educational Research and Improvement 16

National School-to-Work Office 16

Academy for Educational Development/National Institute for Work and Learning 18

Mathematica Policy Research, Inc. 18

National Center for Research in Vocational Education 18

Manpower Demonstration Research Corporation 19

Jobs for the Future 19

American Vocational Association 20

Association for Supervision and Curriculum Development 21

National Association of Secondary School Principals 21

National Governor's Association Business Roundtable 21

IV. A Challenge 22

Tech Prep/School-to-Work Index and Improvement Program

I. Introduction

Reform in workforce education has been emerging for over a decade, beginning with 2+2 articulation and the applied academics teaching strategies. Today, educators, employers, and their communities are implementing new and improved practices through Tech Prep and School-to-Work programs. They have shared effective, innovative practices and constantly are striving to improve.

During their continuous improvement process, however, many consortia of high schools, community colleges, and employers are trying to determine how much they actually are improving and what areas of their programs need additional attention. National and state assessments are attempting to measure progress based on statistics and the tracking of enrollment figures, dropout rates, completers, job placement, and job effectiveness of completers. But, over a period of a decade or less, it is difficult, if not impossible, to evaluate improvement in such educational areas. Also, instruments used to track this type of information are not "diagnostic." They provide little or no indication about which particular practices are contributing to systemic improvements and where the "gaps" need to be closed.

Several types of Tech Prep and School-to-Work measurement checklists have been offered, but they require practitioners to make judgments about the effectiveness of factors that they, themselves, are creating.

With no evaluation system available to them for immediately pinpointing growth and improvement opportunities, state Tech Prep coordinators, in a February 1996 meeting, acknowledged a need for internally focused evaluations of Tech Prep and School-to-Work programs, to find out what is and what is not working.[1]

The Tech Prep/School-to-Work Index and Improvement Program (the Index) developed by the Center for Occupational Research and Development (CORD) and The Gallup Organization (Gallup) attempts to fulfill this need. This unique evaluation program incorporates CORD's knowledge and experience about the essential elements of Tech Prep programs and School-to-Work systems with Gallup's survey practices concerning quality schools and businesses. It is based on techniques, including opinion surveys, Gallup has used for over thirty years to successfully assist businesses in measuring and diagnosing their effectiveness, quality, and customer satisfaction.

Before the Tech Prep/School-to-Work Index and Improvement program and its data collection instruments were developed, Tech Prep and School-to-Work evaluation requirements contained in federal school-to-career legislation were studied, as were the results of other "best practices" studies and writings of experts in the field. Also, many practitioners were interviewed to determine what factors are critical for a successful program.

The first section of this report describes the Index, including a description of the survey development process, how the survey results and Index can be used, and a listing of other benefits. A separate background section reviews the creation of Tech Prep and School-to-Work legislation and the relationship between the two. This section also reviews the research of eleven other organizations that were interested in identifying "best practices."

II. Description of the Program

The Tech Prep/School-to-Work Index and Improvement Program is a unique type of evaluation. While politicians and parents primarily have been the audiences for evaluation program results, teachers, administrators, employers and other "stakeholders" are the audiences for results documented through the Index.

The Tech Prep/School-to-Work Index and Improvement Program:

- Is a **diagnostic tool** to assist educators and employers in identifying areas for improvement;
- **Involves surveying** students, teachers/administrators, and employers, based on practices identified in focus groups of practitioners, to evaluate the knowledge, degree of involvement, and attitudes of participants;
- **Examines strengths and weaknesses** in areas such as career focus, teaching/learning, employer involvement, educational environment, and student interest and motivation; and
- **Uses a self-examination** of results, which leads to behavior and practice for improving educational environment and practices; i.e. "closing the gap."

How Did CORD and Gallup Create the Index and Improvement Program?

For more than a decade, CORD has researched and published curricula and recommendations relating to the improvement of teaching and learning, especially for students in the "neglected majority." CORD supported teaching in the context of the real world long before federal Tech Prep and School-to-Work legislation was enacted.

CORD has identified the following desired outcomes for educational reform:

- Students are focused, interested, and achieving.
- Employers and labor are satisfied with the abilities and advancement potential of new workers and are willing to hire these workers.
- Workers are capable of learning new skills and progressing in careers.
- Parents feel children are challenged and developed to their full potential for adulthood.
- Businesses actively participate in the education/training process.
- Students and workers are fully informed and responsible for choosing and progressing in their career fields.[2]

CORD also has identified eight categories for measuring the progress and needs of Tech Prep/School-to-Work systems:

- Partnerships—effective participation and communication among all stakeholders—businesses, secondary schools, postsecondary schools, parents, students, and community leaders.
- Leadership—a high level of leadership commitment from executive administration at schools and worksites and from program facilitators (teachers, counselors, mentors, coordinators).
- Contextual Learning—understand various learning styles and adapt teaching according to connecting school and work.
- Professional Development—training and orientation for all stakeholders, such as teachers, business leaders, counselors, parents, students, and community leaders.
- Breadth of Access—School-to-Work system available to all students.
- Career Choices—student and parent share experiences and choices.
- Marketing and Public Relations—Tech Prep/School-to-Work is recognized and well respected.
- Organizational Change—sensitive to needed changes, and flexible to incorporate change.[3]

The Gallup Organization does more than opinion polling. Its mission is, "Improving the quality of life around the world by allowing people to be heard," and, among other things, the organization has been involved in opinion research, market research, workplace audits, leadership development training, and personnel selection in education and business.

Gallup also is interested in education reform, has worked with schools and businesses to define excellence, and recently established the Gallup International Research and

Education Center.[4] In an article entitled, "Creating Intellectual Capital," Gallup Chairman Dr. Donald O. Clifton discussed the need for evaluation in education. "To know whether improvement is taking place, there must be measurement. Measurement in turn improves performance. Change can best be managed when there is measurement."[5]

Clifton further stated that to measure educational development, a Hierarchy of Educational Development has been constructed, based on surveys and research with many school systems. This hierarchy is similar to Maslow's Hierarchy of Needs. This is a hierarchy because the first levels must be achieved to progress to higher levels. An understanding of these levels can allow educators to systematically measure a program to determine whether it is improving or getting worse. Perhaps even more importantly, measurement can determine improvement priorities.

The latter stages of this hierarchy sound like an argument for contextual learning and worksite learning. The six stages are:

Safety and Order

It is difficult for students who are anxious or afraid to learn. Their primary concern is survival, and so the intellectual functions have little bearing on their current needs.

Accessibility

When the school environment is welcoming, students are more likely to show up and be there. There are no barriers to them going to school. And within that environment, students are willing to try things proposed to them for learning.

Challenging Expectations

Teachers have high expectations for students and students have high expectations for each other. Students are expected to test their abilities and their capabilities by trying tasks that help them discover how good they can be.

Choices/Freedom

At this level, teachers take an interest in every student and display an interest in their talent and in them growing. They want students to discover how good they can be while they are in their classes. Learners are given opportunities to plan their own curricula. Students are encouraged to be responsible for individual learning programs.

Futurism/Trust

Caring about a student's future can be the most powerful kind of caring. Students think about their future and about how they can prepare to be effective in the next stage of their development. Teachers often talk with them about what they are going to do in the future, and explore future opportunities with them. As a result, students talk to each other about

their futures. Their visions of the future inspire them to expand their learning and competencies.

Individualization

At this level, teachers understand the talent of each student, and each student understands his or her strengths. Programs are designed around the talent of the individual student. Teachers get beyond the principle of treating every student the same. This dimension creates the school most likely to be recognized as the best of the twenty-first century. There is a belief each student has talents that can be developed through educational experiences designed with a caring teacher. These experiences may be within or outside the classroom. At the individualization level, the teacher involves parents, other teachers, and students in the development of a student. Our studies of schools have found that schools receiving the highest ratings are schools in which teachers and parents have frequent, positive, and beneficial conferences about the student. Teachers' talents are critical for individualizing perceptions about students. Many teachers see students stereotypically, as a class, group, age, or sex. Great teachers see each learner as a unique person, different from the next learner.[6]

Figure 1. Hierarchy of Educational Development

Clifton, a former teacher and professor of educational psychology at the University of Nebraska, stated, "We have for many years found the following mission statement to move educators to action: Our greatest contribution is to be sure there is a teacher in

every classroom who cares that every student, every day, learns and grows and feels like a real human being."[7]

CORD and Gallup combined their experience and concern for education reform to develop the Tech Prep/School-to-Work Index and Improvement Program, a major component of which are surveys of students, educators, and employers. The three surveys ask questions that evaluate the knowledge, degree of involvement, and attitudes of participants in programs that integrate school-based and work-based learning. The resulting data are used to provide an interpretive analysis of the factors affecting successful reform. Training and other resources that address areas needing attention then can be contracted from CORD or other sources.

How Were the Surveys for the Index Developed?

The first step in development of the surveys was group interviews (focus groups) with state and local Tech Prep and School-to-Work leaders and employers involved in worksite learning programs. The purpose of these interviews was to ask the experts to define the characteristics of a successful program. A second phase of focus groups included students, teachers, local school administrators, and additional employers. After a review of appropriate literature and interviews, surveys were developed, tested at several pilot sites, and fine-tuned.

Four focus group sessions were conducted by Gallup associates in October 1995, in Atlanta. Sessions were tape recorded and ranged from seventy to ninety minutes. A broad range of questions was asked in each session to elicit a wide range of responses.[8]

One focus group consisted of employers. Insights communicated by business leaders in this session centered around the mission, vision, and outcomes of successful School-to-Work initiatives. Two focus groups consisted of state and local Tech Prep/School-to-Work leaders. Also, teachers, administrators, students, and business leaders in the Danville (Illinois) Area Tech Prep Consortium were interviewed.

Using information gained from the studies of other organizations, CORD's research, and input from Gallup, the three survey instruments were created.

What Are the Characteristics of the Surveys?

The surveys measure attitudes, opinions, and facts. In addition to input from the focus groups, previous Gallup studies of attitudes and perceptions present in high-performing schools contributed to the survey questions. Many questions also relate to critical elements of school-to-career programs identified by the U. S. Department of Education,

the School-to-Work Office, CORD, and other organizations studied. Each survey takes fifteen to twenty minutes to complete.

Student Survey

The student survey is given to all students in grades nine through twelve, not just those identified as "Tech Prep" or in career-related programs. This allows results to show to what degree career planning, contextual teaching, and worksite learning have been spread throughout the system. Demographic information includes race, sex, age, and education level. Identification numbers also are requested in order for longitudinal studies to be done, if desired.

Questions deal with opinion and factual knowledge. Results reveal whether students think teachers and counselors are involved in helping to relate academic courses to the world of work (contextual learning) and to what degree students have made career plans. The survey also reveals the perceived involvement of parents and the degree and types of exposure to businesses and work experiences. Students also are asked whether involvement in a Tech Prep or School-to-Work program has increased their interest in school work.

Teacher and Administrator Survey

This survey is given to all teachers, counselors, and administrators in surveyed schools. Questions deal with what they do in their classrooms, what they believe about the importance of contextual learning and career learning, and their involvement with parents and employers. Teachers and counselors also are asked their opinions about the school administration's support of Tech Prep or School-to-Work programs, coordination of curricula with other teachers in the school, and coordination with their counterparts at higher and lower grade levels.

Employer Survey

The employer survey is given to all employers that have partnerships with the surveyed schools. At each business, up to three individuals are surveyed: (1) the CEO or site manager, (2) the company liaison with education, and (3) a mentor or supervisor of students. In addition to the usual personal demographics, employers are asked to report the size and type of business, the type of involvement with students (internship, apprenticeship, job shadowing, and so on), and the number of students in a formal program. Employers also are asked to give responses about their degree of involvement with school-based and work-based learning activities for students. This includes questions about their involvement in school classrooms, curriculum planning with

teachers, student employment, and whether or not their involvement has produced noticeable benefits for the company.

How Can Results of the Index Be Used?

The Tech Prep/School-to-Work Index and Improvement Program is a resource for local and regional Tech Prep and School-to-Work leaders to use in identifying and evaluating various components essential for the success of a particular site or program. The Index differs from many "best practices" studies in that most other evaluations single out a few sites for long-range study, with final results not due for two or three years. Those studies do not offer immediate, individualized feedback to the multitudes of other sites. The Index, through its surveys of students, educators, and employers, provides the opportunity for any site to identify areas needing attention, and then implement immediate actions for improvement.

The information obtained from the surveys can be analyzed to:

- **Compare results to a baseline of "best practices."** The Index is a number on a scale that indicates how close those being surveyed come to meeting an established standard;
- **Compare perceptions among students, teachers and administrators, and employers.** Many of the questions on each survey have similar or parallel questions on at least one of the other surveys. This allows the responses to be compared for consistency. For example, it is important to note to what degree teachers say they are showing students how to use in everyday life what they are learning, but it is even more enlightening to discover to what degree students believe the teachers are making appropriate real-world connections. Any discrepancy between teacher and student perception may indicate some teacher training is needed (figure 2);
- **Compare trends over time** through repeat surveying in future years. It is beneficial to know where to concentrate your efforts, but it also is beneficial, and perhaps even more beneficial, to know if your action plan resulted in improvement (figure 3); and
- **Summarize results** into broad characteristics or "factors," through Gallup's expertise in analyzing data. For example, survey results can be analyzed to determine whether or not there exists within a consortium or school an overall culture that is supportive of career development.

Figure 2. Percentage of "yes" answers to survey statement, "Academic content is related to aspects of everyday life."

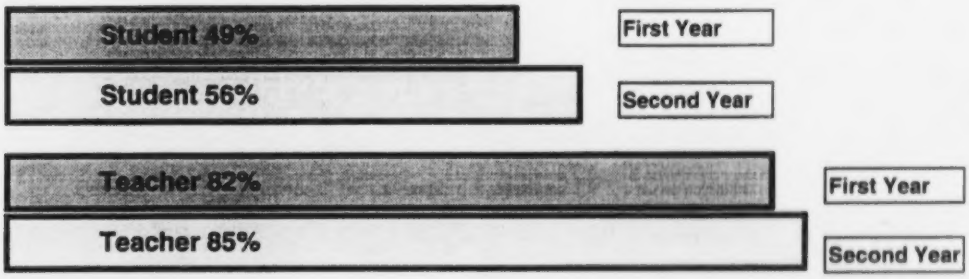

Figure 3. Change over time in percentage of "yes" answers to survey statement, "Academic content is related to aspects of everyday life."

What Are the Benefits of This Evaluation Program?

It is difficult to expect cultural change without measurement. There must be feedback for practitioners to know where emphasis should be placed. In addition, an evaluation should not be used just to find out what is wrong but also to reveal strengths. By concentrating on strengths, improvement in those areas may come quickly. Also, discovering the best characteristics may be beneficial in reports to governmental agencies and in grant proposals.

The following is a list of benefits available to schools, consortia, and systems that participate in the Tech Prep/School-to-Work Index and Improvement Program:

- Provides a way to identify and measure the qualitative and quantitative components of what makes a great consortium.
- Tells consortium members where to concentrate their efforts.
- Provides measurement in attitudes, commitment, and other areas.
- Provides a tool to reveal existing patterns of excellence.
- Has the potential to bring programs alive with hard core data that can motivate people to improve and heighten their awareness of what it takes to succeed.

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- Provides a baseline to measure progress of a local consortium or system.
- Identifies the gap between the ideal condition and what actually is happening.
- Provides a plan and process to help local consortia close the gap.
- Provides data to help businesses understand their role.
- Provides data to help sell reform.
- Gathers data for accreditation or future grant funding.
- Evaluates the product of workforce education, which is the students' ability to meet the needs of employers.
- Allows for correlation with student grades, attendance, retention, and so on.
- Allows for longitudinal studies at each site.

III. Background Information

This section reviews why Tech Prep/School-to-Work legislation was needed, describes the essential elements of the relationship between Tech Prep and School-to-Work, and summarizes several types of Tech Prep and School-to-Work evaluation programs that have been conducted by various organizations.

What Is Tech Prep?

Tech Prep is a significant innovation within the educational reform movement in the United States. It was given major emphasis in the Carl D. Perkins Vocational and Applied Technology Education Act of 1990 and was amended in the School to Work Opportunities Act of 1994.[9]

According to the Perkins Act, Tech Prep education is a 4+2 or a 2+2 planned sequence of study in a technical field, beginning in high school in the ninth or eleventh grade. The sequence extends through two years of postsecondary occupational education or an apprenticeship program of at least two years following secondary instruction, and culminates in an associate degree or certificate.

The Perkins Act requires that Tech Prep programs have seven elements:

1. an articulation agreement between secondary and postsecondary consortium participants
2. a 2+2 or 4+2 design with a common core of proficiency in math, science, communication, and technology
3. a specifically developed Tech Prep curriculum
4. joint in-service training of secondary and postsecondary teachers to effectively implement the Tech Prep curriculum

5. training of counselors to recruit students and ensure program completion and appropriate employment
6. equal access for special populations to the full range of Tech Prep programs
7. preparatory services such as recruitment, career and personal counseling, and occupational assessment[10]

In a study ordered by Congress, the General Accounting Office reported that reforms mandated by the Perkins Act showed signs of progress as well as room for improvement. Two significant findings were that between the school years of 1990-1991 and 1993-1994 the percentage of schools offering Tech Prep programs increased from 27 to 45 percent and the percentage of students participating in Tech Prep rose from nine to sixteen during the same period.[11]

The requirement for a strong math, science, and communication foundation has been met in large part by applied academics courses developed to meet the learning styles of the approximately 80 percent of students who are contextual learners. Since 1985, applied academics coursework in math, science, English, economics, and humanities has been developed, tested, and refined. This initiative, which has broadened into "contextual teaching and learning," brought a new dimension to Tech Prep curricula because of three factors that have become better understood in recent years:

- Nearly all students can learn "undiluted" math, science, and communication skills if we teach them according to how they learn.
- Integration of academic and vocational content into courses benefits students in School-to-Work transition programs.
- Schools can provide the solid foundation for education in programs that lead to careers in technology.

Today, Tech Prep has a new vision—total school reform. We have learned from Tech Prep programs with strong business partnerships and from some youth apprenticeship pilots, that a strong worksite learning component is vital to Tech Prep because it provides an effective School-to-Work transition. It is not a "skills-only" component. It requires that businesses recognize their role—and are acknowledged by schools—as equal partners in the design and delivery of Tech Prep education.[12]

What Is School-to-Work?

Congress passed the School to Work Opportunities Act of 1994 (STWOA) and determined it was to be jointly administered by the U.S. Departments of Labor and Education. The STWOA established a five-year effort to foster partnerships among schools, employers, and other stakeholders for the creation of School-to-Work transition

systems. States and localities were to receive seed money to restructure existing education and training programs. The systems must include school-based and work-based components and activities connecting the two.

STWOA seeks to address the nation's education and training inadequacies by several means. Students are to be offered career exploration and counseling opportunities prior to high school so they will have several years to consider career options. Skill standards and certification systems are to be developed to signal the proficiencies required for various occupations and to indicate which students have achieved those proficiencies. Academic work and occupational preparation in schools are to be upgraded and integrated. Work-based learning experiences are to offer opportunities for students to learn workplace skills.[13]

In an address during the fall 1994 Rhode Island School-to-Work Conference, Sam Halperin, American Youth Policy Forum director, stated, "The School to Work Opportunities Act offers no precise blueprint, no road map or rule book. Rather, the Act is one of the least prescriptive laws on the statute books. It acts like a compass, pointing to a set of concepts or basic premises. These premises are based on recent research about how people learn best and what employers say young people need in order to cope with a fast-changing world."[14] Halperin listed five characteristics of the School-to-Work initiative:

Active Learning

School-to-Work is a new way of looking at the development of young people and particularly their needs in the critical adolescent-transition years from high school into further education and the world of work. School-to-Work asserts youth need active, not passive, learning—in schools, worksites, and voluntary service. Therefore, School-to-Work views the entire community as one great learning laboratory where young people grow, develop, and find networks of support.

Systematic Change

School-to-Work is a systematic effort to change the time-based assumptions on which most high schools are currently based. School-to-Work says young people are expected to exhibit or demonstrate mastery of rigorous academic and behavioral skills, not be judged by how many years they have sat in classrooms or how many written tests they have passed by rote memorization. Actual demonstrations of competence will be the touchstone of School-to-Work.

Role Models

School-to-Work builds on extensive research that says one of the most critical ingredients in young people's success is their close attachment to a caring and successful adult, a mentor, a role model, a coach, a youth advocate who supplements what teachers, neighbors, and family members provide, particularly when traditional supports are lacking.

Contextual Learning

School-to-Work also builds on the powerful recent research finding that most students learn best in context, when they see how knowledge actually is used outside the school, especially in a work setting. Therefore, School-to-Work views the employer's workplace as a learning laboratory where young people can experience the relevance of knowledge in the "real world." Young people like to work. They blossom in the workplace if they are treated as respected members of a team that is expected to perform responsibly and productively. Generations of inquiry concerning European adolescents undergird these truths. Young people in Europe report pride in their workplace roles. They look forward to the company and the counsel of their adult supervisors and coworkers. And, to a considerable extent, they avoid the epidemic of pathologies that beset so many American youth.

Certification Process

Because School-to-Work is outcome- or performance-centered, young people in their dual roles as learners and workers can demonstrate their proficiency at the highest standards. That accomplishment then is certified by a credential recognized and honored by schools, employers, parents, and institutions of higher education.[15]

According to a report by the Council of Chief State School Officers, implementing School-to-Work involves working in teams, instead of through discrete agency programs, and including representatives from the private sector in the decision-making process. Most important, implementing School-to-Work means focusing on students and results. It requires new modes of thinking at all levels. It requires a change of culture.[16]

What Is the Relationship Between Tech Prep and School-to Work?

One of the School to Work Opportunities Act's purposes is to build on and advance a range of promising School-to-Work activities, such as Tech Prep education, career academies, cooperative education, and youth apprenticeship.[17] If School-to-Work transition is the strategy to achieve America's national education goals, Tech Prep is named as the leading tactic.

Tech Prep, unique among program innovations, has spawned thousands of local partnerships dedicated to linking the worlds of school and work among secondary schools and postsecondary educational institutions, private and public employers, labor organizations, government, community-based organizations, parents, students, state educational agencies, and training and human service agencies.

As a national reform movement, Tech Prep has led the way in delivering general program requirements of School-to-Work. These include major emphases on the integration of vocational and academic curricula, instruction and learning, and school- and work-based learning; selection of career majors, maintenance of challenging academic standards through applied academics, and other innovative instructional delivery techniques; seamless articulation into additional training or postsecondary education programs; and many other elements that already are present in effective Tech Prep programs. In a National Tech Prep Network survey of state Tech Prep coordinators, several states indicated the School-to-Work planning regions and corresponding coordinators were often the same ones used for Tech Prep administration.

School-to-Work expands the scope of Tech Prep in the following ways:

- Moves beyond teaching styles to new learning environments
- Expands business involvement to employment, training, labor, and community organizations
- Elevates accreditation to skill certification
- Enlarges affected student populations
- Introduces workplace mentors
- Builds systems among all stakeholders[18]

Why Were Tech Prep and School-to-Work Needed?

America and the New Economy, a study commissioned by the U.S. Department of Labor, states that America is adjusting to a new global economy. The new economy is creating a new structure of jobs and requiring a more highly skilled workforce. Workers' skills need to be both broader and deeper to complement more flexible organizational structures and increasing technology.[19]

Until recently, the organization of America's workplaces has been modeled after the system of mass manufacture that began in the early 1900s. Workers were trained to repeat simple rote tasks with machinelike efficiency. However, in the world's best companies, new high-performance work organizations are replacing the old methods. Workers are asked to use judgment and assume responsibility for quality control and production scheduling.[20]

Although workers are asked to do more in the high-performance workplace, more than 70 percent of the jobs in America will not require a college education by the year 2000. These jobs are the backbone of our economy, and the productivity of workers in these jobs will make or break our economic future.[21]

The Europeans and Japanese organized their educational systems and workplaces to make more effective use of non-college-bound students and nonsupervisory workers. The Europeans built their systems around apprenticeships while the Japanese provided to non-college-bound students the kind of high-quality education the college-bound students were receiving.

Our competitors have focused on applied learning, team processes, and problem solving. At the same time, American schooling has been keeping students from the real world, demanding that students commit fragments of knowledge to memory, and reserving applications for pen and paper exercises.[22]

According to Lester Thurow, in the past, first-world workers with third-world skills could earn premium wages simply because they lived in the first world. There they worked with better technology and equipment than those in the third world. This is no longer true. Today, workers in this country are paid based on their own skills. In the economy of the future, those with third-world skills will earn third-world wages, even if they live in the first world.[23]

Recognizing the need for a better-educated, better-trained workforce, Congress passed timely pieces of legislation in the first half of this decade, and Tech Prep and School-to-Work programs began flourishing across the country.

With such important missions and far-reaching consequences, it only is natural that those involved with Tech Prep and School-to-Work programs have available to them an effective measurement system that accurately and effectively pinpoints their programs' strengths and those areas that need improvement.

Before CORD and Gallup developed the Index, research was done to document what type of Tech Prep and School-to-Work evaluation programs had been conducted and to determine what "best practices" had been discovered.

Research of 'Best Practices'

The following is a summary of several types of Tech Prep and School-to-Work evaluation programs that have been conducted:

U.S. Department of Education: Office of Educational Research and Improvement

To evaluate the initiatives of the Perkins Act, the Act required the Department of Education's Office of Educational Research and Improvement to conduct a National Assessment of Vocational Education (NAVE). An interim report, published in January 1994, contained research findings available as of October 1993. A final report was published in July 1994.[24]

The NAVE assessed the following areas: program quality, program improvement and education reform, equity in vocational education, funding and administration issues, and other related issues. An evaluation of Tech Prep as a reform movement is a significant outcome of the report.

The NAVE based its findings on the extent to which sites had implemented the following essential components of Tech Prep:

- Integration of academic and vocational content
- Articulation of courses from the secondary to the postsecondary level
- Linkages between school and work
- Sequencing of core curriculum and courses
- Emphasis on learner outcomes[25]

National School-to-Work Office

The National School-to-Work Opportunities Office, which is a joint venture of the U. S. Departments of Education and Labor, published a template, or checklist, summarizing key components essential for a School-to-Work system. Since systems grow and change as they evolve, the template includes a time dimension that extends from the planning stages to implementation of the system.

The template is designed for use as a self-assessment tool at the state and local levels. Its purpose is to help identify gaps, next steps, and technical assistance needed as a School-to-Work system is built in a state or community. It is not intended to serve as an evaluation tool or a device for comparing one site against others.

The criteria are divided among the three categories of school-based and work-based elements and connecting activities. A sampling of the items is shown here:

School-Based Elements:

- restructure schools around career majors
- establish career paths—K-16 system
- change culture of schools around School-to-Work

- establish rigorous academic content and performance standards
- develop and integrate curricula
- engage employers to assist schools with curriculum restructuring and all other School-to-Work activities
- link school activities with activities in the workplace—for example, joint curriculum development, personnel, roles, and connections between teachers and worksite supervisors
- provide professional development
- use applied learning methodologies
- offer comprehensive career counseling
- develop individual educational and career-development plans
- serve all students and provide equal access to all programs

Work-Based Elements:

- recruit and maintain support and participation of employers and unions
- adopt work-based learning curricula
- offer a continuum of work-based learning (job shadowing, structured work experience, paid work experience)
- provide alternative strategies for work-based learning
- place and support students in the workplace
- document general workplace competencies
- establish occupational skill standards
- serve all students and provide equal access

Connecting Activities:

- generate strategies to connect school-based and work-based learning
- develop collaborative agreements between schools and employers
- develop collaborative agreements between secondary and postsecondary education
- conduct marketing and public relations programs for all stakeholders
- connect to state economic and workforce development activities
- conduct labor market research and analysis
- continuously evaluate, monitor, and revise the School-to-Work system
- leverage resources to institutionalize system
- serve all students and provide equal access[26]

Academy for Educational Development/National Institute for Work and Learning

The Academy for Educational Development/National Institute for Work and Learning (AED/NIWL) conducted a cross-case comparison of fourteen School-to-Work transition reform initiatives.

AED/NIWL's study documented outcomes for students, business partners, schools (from elementary grades through college), and other partners to the School-to-Work collaboration.[27]

The study reported several short-term outcomes for students that lead to long-term outcomes such as postsecondary training, employment, and higher incomes. Although School-to-Work reform primarily is intended to benefit students, the AED/NIWL study found evidence of positive outcomes for employers, also. The AED/NIWL study found that School-to-Work reforms every aspect of schooling.[28]

Mathematica Policy Research, Inc.

Mathematica Policy Research, Inc., was contracted in 1992 by the U. S. Department of Education to evaluate the status of Tech Prep implementation. The five-year evaluation has three data-collection components—surveys of state-level Tech Prep coordinators in fall 1993 and fall 1996, a four-year annual survey of local Tech Prep consortia beginning in fall 1993, and in-depth studies of ten selected local programs over the same four years. Mathematica also has been contracted to do a multiple-year evaluation of the implementation of the School to Work Opportunities Act, beginning with the 1996-1997 academic year.

Included in Mathematica's research was an in-depth study of ten local Tech Prep consortia. Emphasis was placed on choosing sites from different geographic regions and from both urban and rural locations. The early findings were reported in four dimensions: articulation and programs of study; changes in curriculum and instruction; recruiting, guidance, and career development; and governance and resources.[29]

National Center for Research in Vocational Education

The National Center for Research in Vocational Education (NCRVE) has conducted two major studies of the status of Tech Prep implementation. A 1993 survey was sent to 473 of the 855 identified local Tech Prep coordinators. Eighty-four percent returned the questionnaire. The research focused on five research questions:

- What are the characteristics of local Tech Prep consortia and their coordinators?
- What are the goals, elements, and outcomes of local Tech Prep initiatives?
- At what stage of implementation are local Tech Prep initiatives and selected Tech Prep components operating within those initiatives?

- What barriers are perceived to impact local Tech Prep implementation?
- What do local coordinators perceive to be needed changes in state and federal policy?[30]

In a paper published by NCRVE, five success factors common to high-quality programs were highlighted:

- dedicated leadership
- partnership with local industry leaders
- a commitment to excellence
- integration within the curriculum
- adequate financial support[31]

The results of the 1994-1995 survey are scheduled to be released before the end of 1996.

Manpower Demonstration Research Corporation

Based on field research in case studies of sixteen School-to-Work programs, the following conclusions were drawn:

- Although there is variety among programs, some common core elements were the integration of academic and vocational learning, applied and experiential learning using both the classroom and the workplace, and varied methods of increasing the support students receive in school and at work.
- Programs are able to serve a broad cross section of students and provide access to college and other postsecondary options.
- Extra resources (both staff and funding) are needed to start School-to-Work programs and to implement their core components.
- Providing large numbers of high school students with intensive work-based learning will require a major effort to recruit additional employers and expand the commitment of employers currently participating.
- School-to-Work programs that start early, in grade nine or ten, can reach students before they become disengaged and drop out of school.[32]

Jobs for the Future

In 1990, Jobs for the Future (JFF), an education research organization based in Boston, launched the National Youth Apprenticeship Initiative, a multiyear, foundation-funded effort to explore the potential for encouraging broad diffusion of new models linking school and work in the United States. As part of the initiative, JFF studied the successes, setbacks, challenges, and progress of ten programs.

The study found that among the top benefits offered by a school-to-career program, students mentioned feeling more positive about high school; the chance for career exploration, job exposure, and quality learning; and the opportunity to form special relationships with adults.

The need for additional resources also was a common characteristic of systems in the midst of reform. Many school-to-career models appear to be more expensive per pupil than the typical high school educational program. Three critical activities likely to require additional resources are: coordination among partners; staff development, including release time for instructional staff; and new curricular materials and frameworks. The coordination role played by the programs' intermediaries is a major innovation that is at the heart of school-to-career efforts; it also is complex and tends to be woefully underdeveloped. No single program—or school or district—will be able to, or should be expected to, absorb the cost of creating these linkages.

JFF reported unanimity among program directors that resources for new curriculum and staff development should be sought outside the basic school budget, particularly during the developmental stages of a new program. State and federal resources—consortia of programs in related occupations and industries, and employer and university contributions of staff and materials—are strategies programs use to reduce costs.[33]

American Vocational Association

The American Vocational Association (AVA) published a collection of reports titled, "Successful Strategies: Building a School-to-Careers System." AVA concluded that a number of common threads run through all good school-to-career systems. In summary, these common values are:

- Partnerships
- Integration
- Linkages
- Career Awareness/Guidance
- Professional Development
- Work Experience
- Results[34]

Association for Supervision and Curriculum Development

The *ASCD Curriculum Handbook* states that the vision for Tech Prep promises three outcomes:

- Education with a career focus will motivate students to make decisions about their future and to understand the relevance between education and work.

- Technical education with a strong academic foundation will effectively change instruction into a way of teaching that enables most students to learn.
- Students will be prepared for opportunities beyond high school, whether they choose higher education or work.[35]

National Association of Secondary School Principals

A case study of Tech Prep and School-to-Work reform at six schools across the country was reported by the National Association of Secondary School Principals (NASSP) in two issues of the *NASSP Bulletin*. Several common characteristics of successful school reform were noted.[36]

Common characteristics in the area of curriculum restructuring were elimination of "low expectation" courses, use of contextual learning, integration of academic and vocational curricula, articulation between secondary and postsecondary levels, the use of career clusters, and the involvement of business and community representatives.

The schools in the case study also were implementing comprehensive career education programs. These programs include career exploration and education starting at the lower grades and strong guidance and counseling, as the student advances, in preparation for individual education and career plans.

Other factors in support of change were strong leadership by the principals, involving and empowering stakeholders, and staff development. Teachers, counselors, parents, businesses, and labor and community representatives must be involved in assessing needs, recommending changes, implementation, and evaluation.

National Governors' Association Business Roundtable

Another organization that stresses the need for business involvement is the National Governors' Association Business Roundtable. It has listed ways employers should become involved:

- Employers should work to improve the educational system, especially by providing "real-world" application at their worksites to "enhance students' motivation for learning."
- Business community members should mentor students and make their worksites available to school administrators.
- Business leaders should visit schools to talk about their careers and the importance of good work habits.
- Employers should develop and recognize skill standards so students can be certified in specific careers.

- Employers should recruit business counterparts (colleagues) to get involved in School-to-Work initiatives.[37]

Several of these organizations discovered similar characteristics that are indicative of "best practices" at sites that have been relatively successful. However, the CORD/Gallup Tech Prep/School-to-Work Index and Improvement Program can provide an on-demand, timely analysis for individual sites, and has the potential to reveal existing patterns of excellence and identify gaps between the "ideal condition" and what actually is happening.

IV. A Challenge

"It is no failure to fall short of realizing a vision. The failure is to fall short of visioning what we might realize. The ideal may never be achieved, but fulfillment may be in the process of striving."[38]

Many schools, Tech Prep consortia, and School-to-Work systems have taken giant steps forward in implementing reforms needed to bring education and workforce preparation to where they need to be to start the twenty-first century. However, most programs still are in a transition stage and have not made the complete journey from the traditional methods to those needed to compete in a global economy. Logic tells us the journey may also never be complete. The rapid pace of change in technology means there always will be a need to adjust and improve what we are doing.

Educators, businesses, labor, parents, and students must aim high to keep up with the momentum of the changes taking place. One way to do this is to continually evaluate where we are and where we should be. The Tech Prep/School-to-Work Index and Improvement Program attempts to be the evaluation tool that many need and are searching for today. It has the potential to answer the question, "What do we need to do to keep up with the rest of the country and—for that matter—the rest of the world?"

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[1] Meeting of State Tech Prep Coordinators in Orlando, Florida, February 18-20, 1996, summary by Nancy Dillon, Arizona State Tech Prep Coordinator.

[2] Dan Hull, "Tech Prep/School-to-Work: Where are we? Where are we going? How will we get there?" NTPN Conference presentation, Atlanta, Georgia, October 1995.

[3] Dan Hull, "Tech Prep/School-to-Work: Where are we? Where are we going? How will we get there?"

[4] Letter from Cheryl Beamer to CORD dated November 10, 1995.

[5] Donald O. Clifton, "Creating Intellectual Capital," *Teacher Education and Practice*, The Journal of the Texas Association of Colleges for Teacher Education, Volume 11, Number 2, Fall/Winter 1995, pages 1-13.

[6] Donald O. Clifton.

[7] Donald O. Clifton.

[8] Cheryl Beamer.

[9] *Tech Prep Education*, Office of Vocational and Adult Education, U.S. Department of Education, undated.

[10] *Tech Prep Education*.

[11] *Vocational Education: Changes at High School Level After Amendments to Perkins Act*, Washington, D.C.: U.S. General Accounting Office, July 1995.

[12] Dan Hull. "Stretch Your Tech Prep Vision," *Connections*, April 1995.

[13] *Learning to Work: Making the Transition from School to Work*, Washington, D.C.: Office of Technology Assessment, Congress of the United States, September 1995.

[14] Samuel Halperin. *School-to-Work: A Larger Vision*, Statewide STW Conference, Newport, Rhode Island, November 4, 1994, Washington, D.C.: American Youth Policy Forum.

[15] Samuel Halperin.

[16] Donna Walker James and Cheryl Donahue. *The Challenge of State Leadership for School-to-Work Opportunity Systems*, Washington, D.C.: Council of Chief State School Officers, 1996.

[17] *Changing Education: Resources for Systemic Reform*. Washington, DC: U. S. Department Education, October 1994.

[18] Dan Hull. *Developing Curricula Around Career Clusters and Majors*. A presentation to the Southern Regional Education Board *High Schools That Work* Conference, Louisville, Kentucky, June 12, 1996.

[19] Anthony Patrick Carnevale. *America and the New Economy*. Washington, D.C.: American Society for Training and Development and U. S. Department of Labor, Employment and Training Administration, 1991.

[20] *America's Choice: High Skills or Low Wages!* The Report of The Commission on the Skills of the American Workforce, Rochester, New York: National Center on Education and the Economy, June 1990.

[21] *America's Choice: High Skills or Low Wages!*

[22] Anthony Patrick Carnevale.

[23] Lester C. Thurow. *The Future of Capitalism: How Today's Economic Forces Shape Tomorrow's World*. New York: William Morrow and Company, Inc., 1996.

[24] *National Assessment of Vocational Education*, Final Report to Congress: Summary and Recommendations, Washington, D.C.: Office of Educational Research and Improvement, U.S. Department of Education, July 1994.

[25] *National Assessment of Vocational Education*.

[26] *The School-to-Work Template*, National School-to-Work Office, Washington, D.C., November 1995.

[27] *Learning from Experience: A Cross-Case Comparison of School-to-Work Transition Reform Initiatives*, prepared by Anne M. Rogers, Susan Hubbard, Van Charner, Bryna Shore Fraser, and Richard Horne, Academy for Educational Development, National Institute for Work and Learning, October 1995.

[28] *Learning from Experience: A Cross-Case Comparison of School-to-Work Transition Reform Initiatives*.

[29] Alan Hershey, Marsha Silverberg, Tom Owens. *The Diverse Forms of Tech Prep: Implementation Approaches in Ten Local Consortia*. Princeton, New Jersey: Mathematica Policy Research, Inc., 1995.

[30] D. Bragg, J. Layton, F. Hammons. *Tech Prep Implementation in the United States: Promising Trends and Lingering Challenges*, September 1994.

[31] Debra Bragg and R. E. Hamm. *The Opportunities for School-to-Work*, Berkeley, California: NCRVE, December 1995.

[32] Edward Pauly, Hilary Kopp, Joshua Haimson. *Home-Grown Lessons: Innovative Programs Linking Work and High School*. Manpower Demonstration Corporation, January 1994.

[33] Hilary Kopp and Richard Kazis. *Promising Practices: A Study of Ten School-to-Career Programs*, a Jobs for the Future publication, as reported in *School-to-Work Reporter*, Volume 1, Number 11, February 1996, published by AVA.

[34] *Successful Strategies: Building a School-to-Career System*, Edited by Naomi Thiers, Alexandria, Virginia: American Vocational Association, 1995.

[35] Dan Hull, "Tech Prep/Associate Degree: A Vision for Increased Learning Opportunities for All Students," *ASCD Curriculum Handbook*, Section 10-B, page 10.77, Alexandria VA: Association for Supervision and Curriculum Development, 1994.

[36] "Tech Prep/School-to-Work," *NASSP Bulletin*, Vol. 79. No. 574, November 1995, pages 1-45, Reston, Virginia: National Association of Secondary School Principals.

[37] *The Employer Connection: State Strategies for Building School-to-Work Partnerships*, National Governors' Association report.

[38] Donald O. Clifton.

Tech Prep/School-to-Work Index and Improvement Program

Update #1

November 1, 1996

Introduction

This is the first in a series of updates provided to those who have previously requested information about the Tech Prep/School-to-Work Index and Improvement Program, a collaboration between The Gallup Organization (Gallup) and the Center for Occupational Research and Development (CORD). You should already have received a twenty-four page research report published by CORD. This update gives more detailed information about the surveys and the resulting Index than was available at the time the earlier report was printed. Most of the following information was provided by Gallup.

Review of Gallup's Role

At the request of CORD, Gallup conducted a research study in an effort to identify the components that are characteristic of outstanding Tech Prep/School-to-Work (TP/STW) programs nationwide. In addition, efforts were made to develop an objective measurement tool for individual schools and consortia to determine what strengths and opportunities exist in the programs.

To do this, Gallup developed surveys that were administered in four pilot sites to students, teachers/ administrators, and employers—the key constituencies for understanding delivery of, loyalty to, and quality of satisfaction with TP/STW programs locally, statewide, and across the country.

In an effort to help schools and consortia continue their progress toward excellence, Gallup converted the scores from the surveys into an index. The Gallup TP/STW Index (Index) allows leadership from schools to develop action plans that focus on behaviors that make a difference in the development of an outstanding TP/STW program. Schools and consortia can compare their results to those identified in the outstanding programs and then develop their action plans to make adjustments for future growth.

Analyzing the Data

The data gathered from the pilot surveys were used to assess the psychometric properties of each item and the instrument as a whole. Through a process called content

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assessment, each statement was examined to determine whether it was an appropriate measure of the components being hypothesized. Ambiguous statements were either reworded or eliminated from subsequent phases of the research.

The reliability of each survey (Student = 0.80, Teacher/Administrator = 0.84, and Employer = 0.77) was computed using Cronbach's Alpha Formula. This method provides an internal consistency reliability estimate. The ratings indicate the surveys are very reliable.

Tech Prep/School-to-Work Hierarchy

Information from the three surveys, piloted at four sites, emerged as a basis for identifying a hierarchy to facilitate the development of outstanding TP/STW programs. The hierarchy identified resembles Maslow's Hierarchy of Needs and Gallup's Hierarchy of Educational Development. See Donald O. Clifton's description in *Tech Prep/School-to-Work Index and Improvement Program.*[1] A factor analysis of the pilot surveys produced groupings or clusters of statements that are statistically related to each other. These clusters or components measure important aspects of the outstanding TP/STW programs.

The Student and Teacher/Administrator Surveys each include twenty statements that measure four components: Receptivity, Integration, Investment, and Extension. The Employer Survey includes fifteen statements that measure three components: Receptivity, Integration, and Extension.

Receptivity. The first level of the TP/STW hierarchy is Receptivity. TP/STW programs apparently begin with teachers, students, and employers being aware of the need for students to build their careers by appropriate learning while they are in high school, post high school, and college.

It is generally believed that courses should be related to the ongoing and future lives of the students.

Teachers encourage students to talk about their careers, and students want to talk about their careers. When students have material in class that is related to their careers, they say class is more interesting and meaningful. The Receptivity level is indicated by the conversations about careers. What students learn in class is meaningful for their careers. Both a desire and a vision exist that what is learned in school will apply not only to jobs after high school, but to professional careers students may follow into college and graduate work.

When there is high Receptivity, students, teachers, administrators, and business people appear to have a commitment to making school and the workplace interactive.

Three key words to the Receptivity level are "awareness," "readiness," and "desire."

Integration. The second level of the TP/STW hierarchy is Integration, which means teachers are beginning to build topics into their curricula that relate both to other courses in school and to the workplace.

Teachers adapt their courses to their students' careers.

Students notice that their teachers are always trying to help them see the applicability of what they are studying. In class the students and teachers provide the opportunity for students to study different careers. As a result, this level of activity is evident at home because the student tells family members how what has been learned in school relates to his or her career. Thus, the families are more supportive.

At the Integration level, preparatory behavior such as course building and dialogue between teachers and business people takes place. Teachers and counselors talk to business people about the talents of individual students and ask what students should learn..

At the Integration level, teachers teach something in class every day that pertains to careers.

Investment. The third level of the TP/STW hierarchy is Investment. As stated in CORD's twenty-four page report on the Index and Improvement Program,

> Tech Prep or School-to-Work builds on an extensive research that says one of the most critical ingredients in young people's success is their close attachment to a caring and successful adult, a mentor, a role model, a coach, a youth advocate who supplements what teachers, neighbors, and family members provide, particularly when traditional supports are lacking.[2]

This is a description of the Investment level. Teachers set aside time for helping students plan their careers and help them identify areas in which the students are likely to be successful. Teachers spend time at businesses and talk to business leaders. The Investment level fits very closely with the "Futurism/Trust" level of Gallup's hierarchy of educational development.

Descriptive terms for Investment are "caring," "development," and "planning with a student for that student's future."

Extension. Extension is the *doer* level of this hierarchy. Students, teachers, administrators, and business persons are making things happen. Learning is done

in the context of career. Nonpassive learning is happening. Media events describe TP/STW happenings. Teachers spend time with work supervisors designing structured objectives. Business people come to the school to talk with students about their work and their careers. The workplace is now a learning laboratory. Business people watch for learning outcomes and report them to their teachers. Planning meetings involving teachers, students, and business people are evident.

Words associated with Extension are "individualization," "doer," "contextual learning," "nonpassive learning," "outcome learning."

A Numerical Index

Gallup's research into organizational cultures has discovered that organizations rarely meet development goals if individuals feel action plans are too overwhelming and nothing they do "makes a difference" toward carrying out those plans.

One of the most important principles of management is that *measurement improves performance*. For leadership to facilitate growth, it must identify behaviors that can result in changed actions and attitudes. Leaders must possess an understanding of TP/STW, an understanding of the behaviors that characterize the components of its successful implementation, and an understanding of the hierarchical process needed to elicit those behaviors.

To accomplish this, individual school and consortium data for the pilot surveys were converted into an Index score. Gallup's Index score for each component is based on the number of all possible "yes" responses to survey statements, per 1,000. When Index scores are broken out by component, leadership can begin the process of developing action plans, based upon individual behaviors, that enable schools and consortia to build programs that attain Tech Prep/School-to-Work excellence.

Next Steps

The implementation phase has begun. The first surveys are scheduled to be distributed this month. If you have questions about the TP/STW Index and Improvement Program, please contact Dr. David Bond, Acting Vice President for Programs at CORD. We will continue to send updates as appropriate.

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[1] Clifton, Donald O. As reported in *Tech Prep/School-to-Work Index and Improvement Program*. Waco, TX: Center for Occupational Research and Development, September 1996, p. 13.

[2] Bond, David. *Tech Prep/School-to-Work Index and Improvement Program*. Waco, TX: Center for Occupational Research and Development, September 1996, pp. 4-5.

Tech Prep/School-to-Work Index and Improvement Program

Update #2, May 1997

Introduction

Reform in workforce education has been emerging for over a decade, beginning with 2+2 articulation agreements and applied academics teaching strategies. Today, educators, employers, and their communities are implementing new and improved practices through Tech Prep and School-to-Work partnerships. They have shared effective, innovative practices and constantly are striving to improve. The following characteristics of successful Tech Prep and School-to-Work initiatives have been identified:

- There is an emphasis on connections between what is learned and why it is learned.
- Students are motivated and interested in what they are being taught.
- Teachers care about students and their futures.
- Teachers are integrating course content, both horizontally and vertically, with the content of courses taught by other teachers.
- Employers are providing worksite experiences for students.
- Employers and teachers coordinate learning experiences for students.

Is it important to measure perceptions? If so, how does one measure perceptions of those involved in Tech Prep and School-to-Work initiatives? This issue is highlighted in the March 5 issue of *Education Daily* in an article entitled "Tech Prep Needs More Than Typical Outcome Measures." The article provides insight into the importance of measuring the effectiveness of Tech Prep/School-to-Work programs. The National Center for Research in Vocational Education (NCRVE) says data that provide information about enrollment, program completion, and job placement are not enough. The author refers to a recent survey completed by NCRVE where students, educators, and employers were questioned "to get a better sense of which Tech Prep outcomes should be measured." The results suggest that "it is a 'mistake' to measure the program's outcomes based on a few areas such as completion rates." In the same article, a Tech Prep coordinator from Idaho supports this idea by saying that today's edueators are finding more need to go beyond "tracking traditional outcomes such as graduation and postsecondary placement rates."

The Tech Prep/School-to-Work Index and Improvement Program surveys have been structured to meet the aforementioned need: to reveal perceptions of students, educators, and employers—things that haven't been adequately measured in the past. The results are providing educators with insights into *what actually is happening* in the classroom, not just what some think *should be happening* or *would like to happen*.

Background Information

In November 1996, the first in a series of Index updates was provided to those who requested a 24-page research report about the Tech Prep/School-to-Work Index and Improvement Program, a collaboration between The Gallup Organization (Gallup) and the Center for Occupational Research and Development (CORD). General pricing information also was included.

Since the research report and Update #1 were published, several sites have completed the survey process, and the some of the information learned is the focus of this update. As expected, by completing the surveys, school representatives have become better able to pinpoint programmatic strengths and identify areas needing improvement. They are using this information to develop action plans that will meet the needs of all stakeholders.

As mentioned in previous publications, the Index is structured to survey three audiences: students; educators (teachers, administrators, and counselors); and business partners. Students and educators complete a paper survey, while employers complete their survey by phone (toll-free number is provided). Phone lines are open twenty-four hours a day, over a two-week period, which allows employers to complete the survey at their convenience.

Implementation Sites

In Update #1, we mentioned that sites were beginning to schedule the survey and would be completing them in the first part of this year. Some of those results are available. As expected, we are seeing that the hierarchical design of the questions is providing useful information about the perceptions of participants in current programs and initiatives.

Because of a confidentiality agreement with each site, we cannot reveal consortium names, but we can give examples of these results. As you read the examples that follow, keep in mind how this type of information can be useful in assessing your programs.

Sample Questions *(Refer to hierarchy pyramid in Update #1.)*

Following are example questions from each survey found under the appropriate component. Appropriate responses are "yes," "no," or "don't know." The number shown at the end of each survey statement is the percent of those who answered "yes" in surveyed sites. Notice that the percent of "yes" responses decreases as the questions move up the hierarchy from receptivity to extension. For example, the teacher responses are 65 percent, 49 percent, 36 percent, and 12 percent. As in Maslow's Hierarchy of Needs, the questions become more difficult to answer with a positive response because the first levels must be achieved to progress to higher levels. See the sample executive summary section that follows the sample questions.

Receptivity

When there is high receptivity, students, teachers, administrators, and business people appear to have a commitment to making school and the workplace interactive.

Survey	Survey question	Percent of "yes" responses
Student	*Learning about my career makes school more interesting for me.*	62%
Teacher/Administrator/ Counselor	*My school has a strong vision for Tech Prep/School-to-Work programs.*	65%
Employer	*Someone from our company has made presentations about our company to students in a classroom.*	58%

Integration

At the integration level, teachers teach something in class every day that pertains to careers.

Survey	Survey question	Percent of "yes" responses
Student	*In class last week a teacher showed us how to use what we were learning in everyday life.*	53%
Teacher/Administrator/ Counselor	*I work with teachers and administrators to integrate instruction across two or more subjects.*	49%
Employer	*The teachers make a point to teach something in every class which will help in their (student) careers.*	53%

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Investment

Descriptive terms of investment are "caring," "development," and "planning with a student for that student's future." Students need mentors and role models.

Survey	Survey question	Percent of "yes" responses
Student	*My teachers want to match my talents with what I do as a career.*	39%
Teacher/Administrator/ Counselor	*I have talked with two or more community leaders about the values of Tech Prep/School-to-Work programs.*	36%
Employer	Employers are not surveyed on this component.	N/A

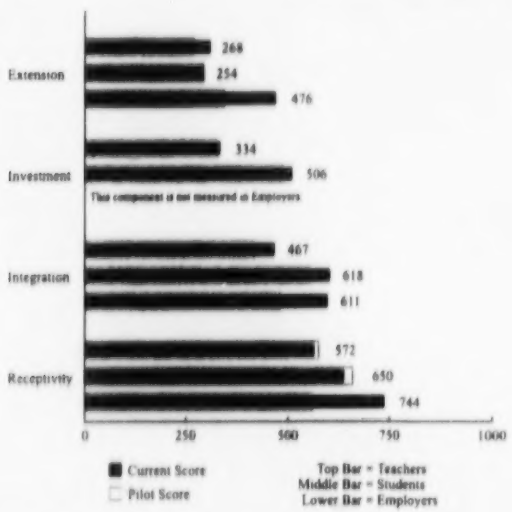
Extension

Words associated with extension are "individualization," "doer," "nonpassive learning," and "outcome learning." Notice the action words in the survey questions.

Survey	Survey question	Percent of "yes" responses
Student	*As part of my school work, I have spent time learning at a business location.*	22%
Teacher/Administrator/ Counselor	*I have participated in a Tech Prep/School-to-Work orientation meeting for families.*	12%
Employer	*I have recruited other businesses to participate in business or education partnerships.*	37%

Sample Executive Summary

The following information is an example of results from the executive summary, which is provided by Gallup as part of the feedback seminar. This summary example is a reflection of the perceptions of all the students, educators, and employers surveyed in this consortium. Results are compared to pilot site[1] responses. The scale is based on the number of "yes" answers per 1,000 responses.



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[1] Pilot site surveyed population was approximately 8,700.

Funding Opportunities and Pricing Information

Funding for the TP/STW Index and Improvement Program can be provided through local Tech Prep or School-to-Work funds already designated for evaluation, through contributions from each school completing the survey, through contributions from business supporters, and/or through the following grant applications: Tech Prep, School-to-Work, state funds, and foundations.

The base price to complete the TP/STW Index is as follows:

Number of Potential Surveys*	Consortium Price
10,000 or less	$14,000
10,001 to 15,000	$18,000
15,000 to 20,000	$21,500

**Includes all secondary students, teachers, counselors, administrators, and three surveys for each participating business. Must have a 70 percent return to generate a report. Cost can be provided for larger volumes.*

The base price is for the surveys only. Additional costs include a videoconference session to discuss surveys, distribution of surveys, and responsibilities of each school representative to get surveys completed, or a videoconference where the formal results are presented by CORD and/or Gallup staff. If you should choose to have the results presented in person by CORD and Gallup staff, there is additional cost for travel and Gallup staff consulting time.

If a videoconferencing facility is not available at your site, CORD's staff can assist you in finding a site in your area.

Scheduling

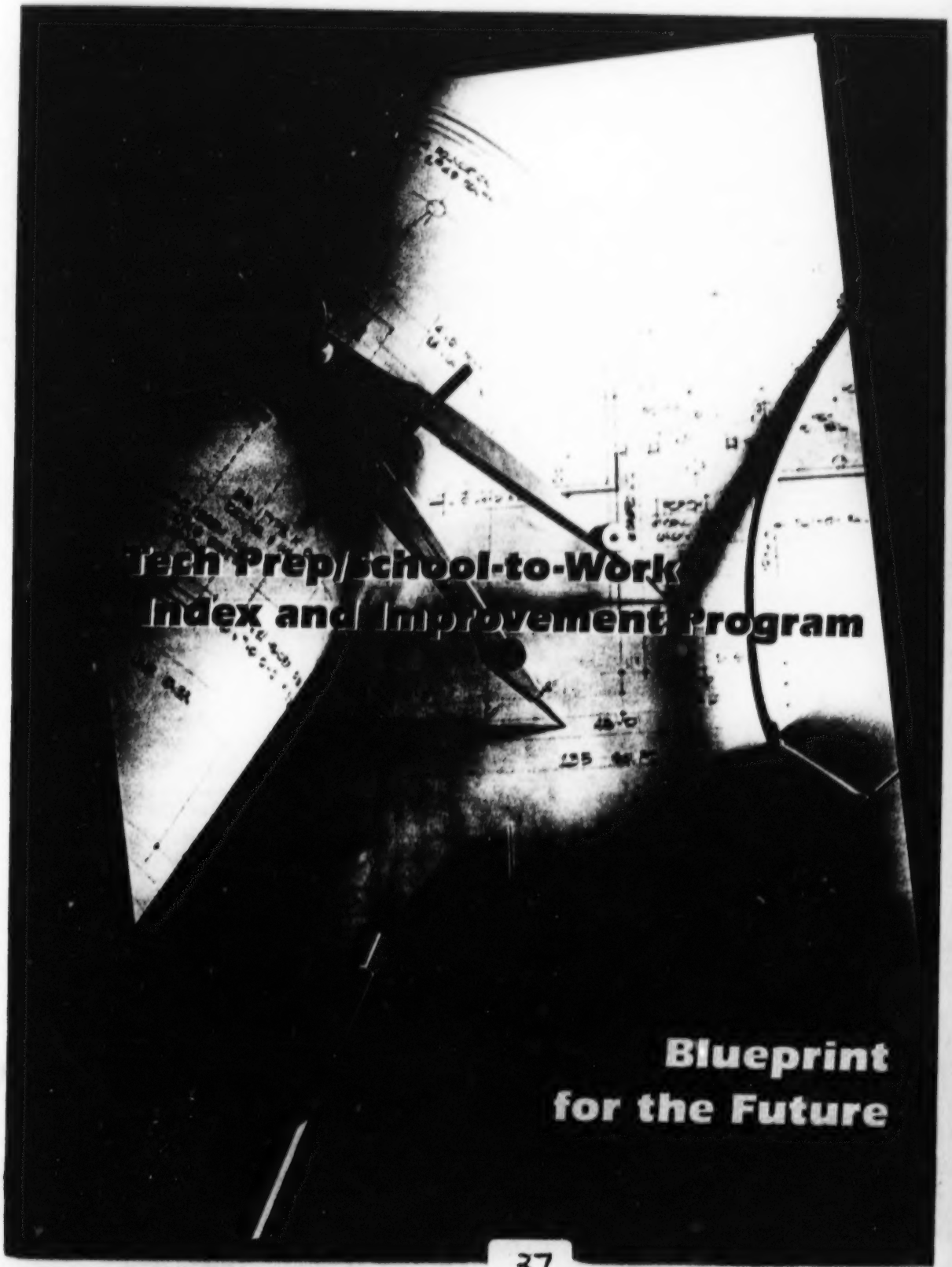
The survey can be done only when school is in session. The process, from start to finish, takes approximately eight weeks. (Most of this time is for processing results and providing feedback. Completing the paper surveys takes approximately twenty minutes.)

One question that has been asked about completing the surveys is how long a program must exist before an evaluation like this can be completed. No matter what the stage of implementation, it is never too early to get a snapshot of where these initiatives are in terms of making programmatic improvements. In fact, some schools completing the surveys have first-year programs.

Tech Prep and School-to-Work coordinators who have completed the survey agree that, with the Index results, they will be better able to direct their schools on a path of excellence.

For more information about the CORD/Gallup Tech Prep/School-to-Work Index and Improvement Program, contact Kippy Cooper by calling ***800/231-3015*** *or by writing to CORD, P.O. Box 21689, Waco, Texas 76702-1689. Send E-mail to kcooper@cord.org. General information about the Index is provided on our Internet website:* ***http://www.cord.org***

Center for Occupational Research and Development
P.O. Box 21689
Waco, TX 76702-1689



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Are students in your school interested in what they are being taught? Are teachers using teaching methods that optimize student performance? Are local business and industry actively involved in your School-to-Work programs?

Looking for answers? The Tech Prep/School-to-Work Index and Improvement Program offers a plan that empowers your school to enhance its programs.

The Center for Occupational Research and Development (CORD) and The Gallup Organization developed the Tech Prep/School-to-Work Index and Improvement Program by combining CORD's knowledge about the elements of Tech Prep programs and School-to-Work systems with Gallup's experience in evaluation of quality schools and businesses.

WHAT Is the Tech Prep/School-to-Work Index and Improvement Program?

The survey process of the index program is a diagnostic tool used to identify areas for educational improvement. This innovative program is designed to:

- Identify possible gaps between educational improvement measurement and action.
- Determine and measure key attitudes and opinions of students, teachers and administrators, and employers.
- Examine strengths and weaknesses in areas such as career focus, teaching and learning, employer environment, educational environment, and student interest and motivation.
- Interpret results, which are provided in a data format to be discussed in a management team feedback seminar.

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WHY Is the Tech Prep/School-to-Work Index and Improvement Program Unique?

The index program offers immediate, individualized feedback to all sites surveyed. Through surveys of students, educators, and employers, the program provides a timely analysis of Tech Prep/School-to-Work activities, reveals patterns of excellence among students, and identifies gaps between "ideal conditions" and what is actually happening.

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HOW Can Results of the Tech Prep/School-to-Work Index and Improvement Program Be Used?

The surveys completed by students, educators, and employers are a key component of the program. Information gathered from the surveys can be analyzed to:

- Calculate a numerical index and compare it to a baseline of "best practices."
- Identify differences in perception among students, teachers and administrators, and employers.
- Compare trends over time through future repeated surveying.
- Summarize results into four factors: receptivity, integration, investment, and extension.

WHAT Are the Benefits of the Tech Prep/School-to-Work Index and Improvement Program?

It is unrealistic to expect programmatic change without measurement. There must be feedback for practitioners to know where emphasis should be placed. In addition, an evaluation should be used to determine a program's strengths as well as weaknesses.

Schools, consortia, and school districts that participate in the index program will benefit from:

- Discovering their programs' best characteristics that can be highlighted in governmental reports.
- Identifying and measuring qualitative and quantitative components of what makes an effective consortium.
- Providing measurement of knowledge, attitudes, commitment, and other areas.
- Allowing for correlation with student grades, attendance, retention rate, and other student-specific criteria.
- Gathering data for accreditation or proposals.

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HOW Can Improvements Be Made?

When the survey process is complete, the next step is to consider how to make improvements and adjustments. Consortia and schools may consider contracting with CORD to provide staff development and other services in areas identified by the surveys. These areas may include:

- curriculum integration of academic and occupational components
- integration of SCANS and occupational skill standards into curricula
- alternate learning styles and teaching methodologies
- work-based and project-based learning
- authentic assessment instruments, portfolio review
- career awareness
- alternate course materials

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HOW Can the Tech Prep/School-to-Work Index and Improvement Program Be Funded?

Funding can be provided through:

- Local Tech Prep or School-to-Work funds already designated for evaluation
- Contributions from schools in the survey
- Contributions from business supporters
- Grants:
  - STW Technical Assistance
  - Tech Prep
  - State Resources
  - Foundations

Measurement Improves Performance

About CORD

The Center for Occupational Research and Development is a not-for-profit organization dedicated to excellence in education and training for highly skilled workers through new and integrated curriculum materials and processes. For more than a decade, CORD has researched and published curricula and recommendations relating to the improvement of teaching and learning, especially for students in the "neglected majority." CORD supported the connection of academic concepts with real-life experiences before federal Tech Prep and School-to-Work legislation was enacted.

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About The Gallup Organization

The Gallup Organization does more than opinion polling. Its mission is, "Improving the quality of life around the world by allowing people to be heard." The organization has been involved in opinion research, market research, workplace audits, leadership development training, and personnel selection in education and business.

Gallup takes a keen interest in education reform. It has worked with many schools and businesses to define excellence, and recently established the Gallup International Research and Education Center.

To receive a twenty-four-page research report and pricing information on the Tech Prep/School-to-Work Index and Improvement Program, contact:

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CORD

Leading change in education for work

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